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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/757,632	01/11/2001	ChangSheng Lin	9046-037	8188
26171	7590	11/17/2004	EXAMINER	
FISH & RICHARDSON P.C. 1425 K STREET, N.W. 11TH FLOOR WASHINGTON, DC 20005-3500			DIAMOND, ALAN D	
			ART UNIT	PAPER NUMBER
			1753	

DATE MAILED: 11/17/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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## Office Action Summary

Application No.

09/757,632

Applicant(s)

LIU ET AL.

Examiner

Alan Diamond

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 03 November 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 11 January 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Comments***

1. The objection to the specification for new matter has been overcome by Applicant's amendment thereof.
2. The rejection of claims 10 and 15 under 35 USC 112, first paragraph, with respect to the term "+210V/cm" has been overcome by Applicant's amendment of the claims.
3. The rejections of claims 1-22 under 35 USC 103(a) over Hu et al in view of Petersen et al and Wang and over Kenndler et al in view of Petersen et al and Wang have been overcome by Applicant's amendment of the claims so as to require that the rinsing is done without "hydroxide" instead of without "sodium hydroxide". Said rinsing without hydroxide excludes the potassium hydroxide taught by Petersen et al and Wang.

### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:  

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.
5. Claims 11-15 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. In claim 11, at line 5, the general term

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"detergent" is not supported by the specification, as originally filed. The specification does support a "lubricating detergent" such as sodium dodecylsulfate (SDS) (see, for example, page 2, lines 7-8). However, recitation of a "lubricating detergent" such as SDS is not sufficient support for all possible detergents. It is suggested that said term be changed to "lubricating detergent" at line 5 of claim 11. The same applies to dependent claims 12-15.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claims 11-15 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 11 is indefinite because "the lubricating detergent" at line 12 lacks positive antecedent support in claim 11. As noted above, it is suggested that the term "detergent" at line 5 of claim 11 be changed to "lubricating detergent". The same applies to dependent claims 12-15.

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hu et al, Journal of Chromatography A, 717, (1995), pages 33-39, in view of Ohms et al, U.S. Patent 4,997,536.

In section 3.2 at page 35, Hu et al performs a capillary zone electrophoresis with a sample buffer having an SDS concentration of 35 mM. On page 36, at the first paragraph of the first column, another capillary zone electrophoresis is performed using an SDS concentration of 3.5 mM in the sample buffer. Between runs, the capillary was rinsed with NaOH, and multiple runs were performed (see page 35, section 2.5). The capillaries used are fused-silica capillaries (see page 35, section 2.5). Hu et al teaches the limitations of the instant claims other than the differences which are discussed below.

The instant claims call for not using an NaOH intermediate rinse, whereas Hu et al uses such a rinse. However, Hu et al is not limited to NaOH for the rinse. Ohms et al teaches controlling the electrokinetic potential of a fused-silica capillary during electrophoresis by rinsing with dithioerythritol (DTE) solution between injections (see col. 4, line 10 through col. 5, line 47). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have performed Hu et al's capillary zone electrophoresis using a DTE rinse instead of said NaOH rinse between injections because said DTE rinse provides the advantage of being able to control the electrokinetic potential, as taught by Ohms et al.

Hu et al does not specifically recite "adding" the SDS to the sample to be electrophoresced. However, it would have been obvious to one of ordinary skill in the

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art at the time the invention was made to have added to have added the buffer containing the SDS to Hu et al's sample to be electrophoresced so that a sample that is ready for analysis could be obtained.

With respect to claims 10 and 15, Hu et al illustrates a voltage ratio of 17.5 kV/50 cm (i.e., 350 V/cm) (see section 2.5 at page 35), whereas said claims call for 200 V/cm. However, Hu et al is not limited to 350 V/cm. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected an appropriate column length and voltage so that the capillary zone electrophoreses could be performed. Nothing unexpected has been demonstrated using 200 V/cm as opposed to any other ratio.

10. Claims 1-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kenndler et al, Journal of Chromatography, 545, (1991), pages 397-402, in view of Ohms et al, U.S. Patent 4,997,536.

Kenndler et al performs capillary zone electrophoresis using protein samples containing SDS at a concentration of 0.05% by weight (i.e., 1.7 mM) and 0.1% by weight (i.e., 3.5 mM) (see page 398; and Figure 1 at page 399). The buffer was borate (see page 398). The capillaries were fused-silica capillaries (see page 398). Kenndler et al uses a sodium hydroxide rinsing step (see page 389). Kenndler et al teaches the limitations of the instant claims other than the differences which are discussed below.

The instant claims call for not using an NaOH intermediate rinse, whereas Kenndler et al uses such a rinse. However, Kenndler et al is not limited to NaOH for the rinse. Ohms et al teaches controlling the electrokinetic potential of a fused-silica

capillary during electrophoresis by rinsing with dithioerythritol (DTE) solution between injections (see col. 4, line 10 through col. 5, line 47). It would have been obvious to one of ordinary skill in the art at the time the invention was made to have performed Kenndler et al's capillary zone electrophoresis using a DTE rinse instead of said NaOH rinse between injections because said DTE rinse provides the advantage of being able to control the electrokinetic potential, as taught by Ohms et al. Furthermore, the application of third and fourth samples, after rinsing with the DTE, would have been within the skill of an artisan.

Kenndler et al does not specifically recite "adding" the SDS to the protein sample to be electrophoresced. However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have added to have added the buffer containing the SDS to Kenndler et al's protein sample to be electrophoresced so that a sample that is ready for analysis could be obtained.

With respect to claims 10 and 15, Kenndler et al illustrates a voltage ratio of 350 V/cm (page 398), whereas said claims call for 200 V/cm. However, Kenndler et al is not limited to 350 V/cm. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected an appropriate column length and voltage so that the capillary zone electrophoreses could be performed. Nothing unexpected has been demonstrated using 200 V/cm as opposed to any other ratio.

### ***Response to Arguments***

11. Applicant's arguments with respect to the instant claims, filed November 3, 2004, have been considered but are moot in view of the new ground(s) of rejection.

**Conclusion**

12. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan Diamond whose telephone number is 571-272-1338. The examiner can normally be reached on Monday through Friday, 5:30 a.m. to 2:00 p.m. ET.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on 571-272-1342. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for



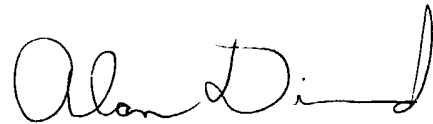
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published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free).

A handwritten signature in black ink, appearing to read "Alan Diamond". The signature is fluid and cursive, with a long horizontal stroke at the end.

Alan Diamond  
Primary Examiner  
Art Unit 1753

Alan Diamond  
November 16, 2004